IN THE CLAIMS

The following listing of claims replaces all prior versions, and listings, of claims in the application:

1. (currently amended) A LED of AlGaInP system, comprising:

a substrate having conductivity,

a n-type cladding layer formed of compound semiconductor of AlGaInP system,

an active layer formed of compound semiconductor of AlGaInP system having a smaller band gap energy than that of said n-type cladding layer,

a p-type cladding layer formed of compound semiconductor of AlGaInP system having a larger band gap energy than that of said active layer,

a p-type window layer formed of GaP,

electrodes formed on predetermined portions of said window layer and said substrate, and

an insertion layer which is inserted between said p-type cladding layer and said p-type window layer, [and] has a smaller band gap energy than that of said p-type cladding layer, and lowers a forward voltage of the LED.

2. (original) A LED of AlGaInP system according to claim 1, wherein:

said band gap energy of said insertion layer is larger than that of said active layer.

3. (original) A LED of AlGaInP system according to claim 1, wherein:

a conductivity type of said insertion layer is p-type.

4. (original) A LED of AlGaInP system according to claim 3, wherein:

concentration of carriers in said p-type insertion layer is $5x10^{17}cm^{-3}$ to $5X10^{18}cm^{-3}$

5. (original)A LED of AlGaInP system according to claim 1, wherein:

said insertion layer is lattice-matched with said p-type cladding layer.

6. (original) A LED of AlGaInP system according to claim 1, wherein:

said insertion layer is formed of AlGaInP, GaInP, AlInP, GaAs, AlGaAs, GaAsP or InGaAsP, which has such a composition that said band gap energy thereof is smaller than that of said p-type cladding layer.

7. (currently amended) A LED of AlGaInP system comprising:

a substrate having conductivity,

a n-type cladding layer formed of compound semiconductor of AlGaInP system,

an active layer formed of compound semiconductor of AlGaInP system having a smaller band gap energy than that of said n-type cladding layer,

a p-type cladding layer formed of compound semiconductor of AlGaInP system having a larger band gap energy than that of said active layer,

a window layer formed of $Ga_xIn_{1-x}P(0<x\leqq 1)$, $Al_yIn_{1-y}P(0<y\leqq 1)$ or $Al_zGa_{1-z}P(0<z\leqq 1)$,

electrodes formed on predetermined portions of said window layer and said substrate, and

an insertion layer which is inserted between said p-type cladding layer and said window layer, [and] has a smaller band gap energy than that of said p-type cladding layer, and lowers a forward voltage of the LED.

8. (currently amended) An epitaxial wafer for a LED of AlGaInP system, comprising:

a substrate having conductivity,

a n-type cladding layer formed of compound semiconductor of AlGaInP system,

an active layer formed of compound semiconductor of AlGaInP system having a smaller band gap energy than that of said n-type cladding layer,

a p-type cladding layer formed of compound semiconductor of AlGaInP system having a larger band gap energy than that of said active layer,

a p-type window layer formed of GaP, and

an insertion layer which is inserted between said p-type cladding layer and said p-type window layer, [and] has a smaller band gap energy than that of said p-type cladding layer, and lowers a forward voltage of the LED.

9. (original) An epitaxial wafer for a LED of AlGaInP system according to claim 8, wherein:

said band gap energy of said insertion layer is larger than that of said active layer.

10. (original) An epitaxial wafer for a LED of AlGaInP system according to claim 8, wherein:

a conductivity type of said insertion layer is p-type.

11. (original) An epitaxial wafer foraLED of AlGaInP system according to claim 10, wherein:

concentration of carriers in said insertion layer is $5X10^{17}cm^3$ to $5X10^{18}cm^3$.

12. (original) An epitaxial wafer for a LED of AlGaInP system according to claim 8, wherein:

said insertion layer is lattice-matched with said p-type cladding layer.

13. (original) An epitaxial wafer for a LED of AlGaInP system according to claim 8, wherein:

said insertion layer is formed of compound semiconductor of AlGaInP, GaInP, A1InP, GaAs, A1GaAs, GaAsP or InGaAs, which has such a composition that said band gap energy thereof is smaller than that of said p-type cladding layer.

14. (currently amended) An epitaxial wafer for a LED of AlGaInP system comprising:

a substrate having conductivity,

a n-type cladding layer formed of compound semiconductor of AlGaInP system,

an active layer formed of compound semiconductor of AlGaInP system having a smaller band gap energy than that of said n-type cladding layer,

a p-type cladding layer formed of compound semiconductor of AlGaInP system having a larger band gap energy than that of said active layer,

a window layer formed of $Ga_xIn_{1-x}P(0<x\leqq 1)$, $A1_yIn_{1-y}P(0<y\leqq 1)$ or $A1_zGa_{1-z}P(0<z\leqq 1)$, and

an insertion layer which is inserted between said p-type cladding layer and said window layer, [and] has a smaller band gap energy than that of said p-type cladding layer, and lowers a forward voltage of the LED.

15. (currently amended) A LED of AlGaInP system, comprising:

a substrate having n-type conductivity,

a n-type cladding layer formed of compound semiconductor of AlGaInP system,

an active layer formed of compound semiconductor of AlGaInP system having a smaller band gap energy than that of said n-type cladding layer,

a p-type cladding layer formed of compound semiconductor of AlGaInP system having a larger band gap energy than that of said active layer,

a p-type window layer doped with Zn,

an insertion layer formed of compound semiconductor of AlGaInP system which is inserted into said p-type cladding layer or between said p-type cladding layer and said p-type window layer,

wherein said insertion layer is lattice-matched with said p-type cladding layer and prevents impurities from diffusing into the active layer, and a composition ratio of Al in said insertion layer is lower than that in said p-type cladding layer and higher than that in said active layer.

16. (original) A LED of AlGaInP system according to claim 15, wherein:

said p-type window layer is formed of GaP.

17. (previously amended) A LED of AlGaInP system according to claim 15, wherein:

said p-type cladding layer is doped with Zn.

18. (original) A LED of AlGaInP system according to claim 15, wherein:

concentration of carriers in said insertion layer is $2X10^{17}cm^{-3}$ to $5Xl0^{18}cm^{-3}$

19. (currently amended) An epitaxial wafer for a LED of AlGaInP system, comprising:

a substrate having n-type conductivity,

a n-type cladding layer formed of compound semiconductor of AlGaInP system,

an active layer formed of compound semiconductor of AlGaInP system having a smaller band gap energy than that of said n-type cladding layer,

a p-type cladding layer formed of compound semiconductor of AlGaInP system having a larger band gap energy than that of said active layer,

a p-type window layer doped with Zn, and

an insertion layer formed of compound semiconductor of AlGaInP system which is inserted into said p-type cladding layer or between said p-type cladding layer and said p-type window layer,

wherein said insertion layer is lattice-matched with said p-type cladding layer and prevents impurities from diffusing into the active layer, and a composition ratio of Al in said insertion layer is lower than that in said p-type cladding layer and higher than that in said active layer.

20. (original) An epitaxial wafer for a LED of AlGaInP system according to claim 19, wherein:

said p-type window layer is formed of GaP.

21. (previously amended) An epitaxial wafer for a LED of AlGaInP system according to claim 19, wherein:

said p-type cladding layer is doped with Zn.

22. (original) An epitaxial wafer for a LED of AlGaInP system according to claim 19, wherein:

concentration of carriers in said insertion layer is $2X10^{17}$ cm^{-3} to $5x10^{18}$ cm^{-3}.

23. (currently amended) A LED according to claim 1, wherein the insertion layer lowers [a] the forward voltage between the p-type cladding layer and the p-type window layer.

24. (currently amended) A LED according to claim 7, wherein the insertion layer lowers [a] the forward voltage between the p-type cladding layer and the window layer.

25. (currently amended) An epitaxial wafer according to claim 8, wherein the insertion layer lowers [a] the forward voltage between the p-type cladding layer and the p-type window layer.

26. (currently amended) An expitaxial wafer according to claim 14, wherein the insertion layer lowers [a] the forward voltage between the p-type cladding layer and the window

layer.

27. (previously added) A LED according to claim 15, wherein the insertion layer lowers a forward voltage between the p-type cladding layer and the p-type window layer.

28. (previously added) An epitaxial wafer according to claim 19, wherein the insertion layer lowers a forward voltage between the p-type cladding layer and the p-type window layer.